

BELOUS, N.Kh.---(continued). Card 2.

Tomskiy politekhnicheskiy institut (for Bakanov, Gebler, Smolyaninov, Smolyaninova). 5. Sibirskiy nauchno-issledovatel'skiy institut geologii, geofiziki i mineral'nogo syr'ya (for Yushin, D'yakonova, Rezapov, Kashtanov, Gol'bert). 6. Institut ekonomiki sel'skogo khozyaystva (for Garmash). 7. Sibirskiy metallurgicheskiy institut (for Bykov, Borodin, Rychkov). 8. Tomskiy inzhenerno-stroitel'nyy institut (for Kuchin). 9. Chlen-korrespondent AN SSSR (for Shakhov).

Borodin, M.

BORODIN, M.

Zhidkostnye termostaty dlia avtomaticheskogo regulirovaniia temperaturnykh rezhimov sistem smazki i okhlazhdeniia motorov samoleta. Moskva, 1939.
(TSAGI. Trudy, no. 447)

Title tr.: Fluid thermostats for automatic temperature regulation of aircraft engine lubricating and cooling systems.

RFB (microfilm)

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

L 22727-66

ACC NR: AP6002925

SOURCE CODE: UR/0286/65/000/024/0086/0086

AUTHORS: Anisimov, O. L.; Borodin, M. D.; Pozdneva, T. V.; Chizhikov, Yu. V.;
Tarasova, N. A.; Cherkinskiy, B. Z.

ORG: none

TITLE: Method for hermetically sealing interference light filters. Class 42, No. 177115

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 86

TOPIC TAGS: interference filter, light interference

ABSTRACT: This Author Certificate presents a method for hermetically sealing interference light filters prepared by depositing an interference film which is then covered with a blank backing with subsequent smearing of the ends with sealing and water-insulating coatings. To protect the interference film of the light filter from moisture, a film, e.g., butaphol, is placed between the interference film and the blank backing. The light filter is then pressurized at increased temperature and pressure until the film is cemented to the backing over all surfaces of the light filter.

SUB CODE: 20/ SUBM DATE: 03Oct64

Cord 1/1

UDC: 535.345.67

MITIN, S.A.; BORODIN, M.I.; NAUMOV, N.A.; NAUMOV, I.I., red.;
GERASIMOVA, G.S., red.izd-va; MOCHALINA, Z.S., tekhn.red.

[Tables for determining wages in a construction brigade]
Tablitsy dlia vnutribrigadnogo rascheta zarabotnoi platy v
stroitel'stve. Moskva, Gosstroizdat, 1963. 530 p.
(MIRA 16:9)

(Wages--Construction workers)
(Construction industry--Tables and ready-reckoners)

BORODIN, Mikhail Maksimovich; DUBOVSKOY, Ivan Alekseyevich; KHARLAMOV,
Aleksandr Fedorovich; CHULITSKIY, Lev Dmitriyevich; BUKHAROV, I.V.,
redaktor; NIKOLAYEVA, I.I., redaktor izdatel'stva; SHITS, V.P.,
tekhnicheskij redaktor

[Wages in forestry] Oplata truda v Lesnom khoziaistve. Moskva, Gos-
lesbumizdat, 1956. 127 p. (MLRA 9:11)
(Wages) (Forests and forestry)

2

CHULITSKIY, Lev Dmitriyevich; BORODIN, M.M., spets.red.; MAKAROVA, E.A.,
red.; MALEK, Z.N., tekhn.red.

[Setting production norms in forest working circles, logging
camps, and woodworking industries] Tekhnicheskoe normirovanie
v leskhozakh, lespromkhozakh i derevoobrabatyvaiushchem proiz-
vodstve. Moskva, Izd-vo VTsSPS, Profizdat, 1960. 190 p.
(MIRA 13:9)

(Lumbering--Production standards)

(Woodworking industries--Production standards)

BORODIN, M.M.; CHULITSKIY, L.D.; BREDIKHIN, A.M., red.; TRUKHINA, O.N.,
tekhn. red.

[Establishing norms in forestry] Normirovanie truda v lesnom
khoziaistve. Moskva, Izd-vo sel'khoz.lit-ry, zhurnalov i pla-
katov, 1961. 286 p. (MIRA 15:1)
(Forest norms) (Lumbering)

BORODIN, Mikhail Maksimovich; L'VOV, Sergey Vladimirovich;
NEMIROVSKIY, Yevgeniy Il'ich; PROSKURYAKOV, Nikolay
Aleksandrovich; CHULITSKIY, Lev Dmitriyevich; REBROVA,
G.I., red.; LABAZINA, S.N., red. izd-va; GRECHISHCHEVA,
V.I., tekhn. red.

[Work and wages for the workers of the forest economy and the
lumbering industry] Trud i zarabotnaya plata rabotnikov les-
nogo khoziaistva i lesnoi promyshlennosti. Moskva, Goslesbum-
izdat, 1962. 323 p. (MIRA 16:3)

(Wages--Forests and forestry)

TRICHIN, Valentin Sergeyevich; BORODIN, M.M., red.

[Workers' labor productivity in the forest economy] Pro-
izvoditel'nost' truda rabochikh v lesnom khoziaistve.
Moskva, Izd-vo "Lesnaia promyshlennost'," 1964. 132 p.
(MIRA 17:8)

621.377.335.3.029.64:537.226.2 2550
Waveguide Method of Measuring
the Dielectric Properties of Materials
at Elevated Temperatures. — V. 1.
Akernov & M. Ya. Porodin. (Radioelektronika
& Elektronika, Nov. 1959, Vol. 1, No. 11, pp.
1435-1443.) Application of the short-
circuit and open-circuit waveguide methods
of determining the dielectric properties of
materials at a wavelength of 3.2 cm and
temperatures of 20-200°C is discussed.
Formulae are given for calculating ϵ' and ϵ''
and the results of determinations of ϵ' and
 $\tan \delta$ of some materials of high molecular
weight are tabulated and presented
graphically.

3

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P/S

BORODIN M. YA.

P. 2,7

PHASE I BOOK EXPLOITATION

SOV/4207

Penoplastmassy; sbornik statey (Foam Plastics; Collection of Articles) Moscow, Oborongiz, 1960. 182 p. Errata slip inserted. 5,050 copies printed.

Ed.: A.A. Moiseyev, Candidate of Technical Sciences, V.V. Pavlov, and M.Ya. Borodin; Managing Ed.: A.S. Zaymovskaya, Engineer; Ed. of Publishing House: I.A. Suvorova; Tech. Ed.: V.I. Oreshkina.

PURPOSE: This book is intended for engineers and technicians planning and manufacturing products and structures using lightweight fillers, and for workers of the foam plastic industry.

COVERAGE: The volume contains 13 studies on foam plastics and foaming agents. Some of the studies provide data on the technology of producing foam plastics from polystyrene and polyvinyl chloride, and data on thermosetting polymers (phenol rubber compositions, polyurethane foam, polyepoxy foam, and foam plastic sheets based on organic silicon resins). Other studies contain data on the composition of foam plastics, the effect of technological factors and volumetric weight on the physical, mechanical, and dielectric properties of foam plastics,

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Foam Plastics; Collection of Articles

80V/4207

and on the fields of application of foam plastics. Several studies deal with the production technology of radomes and reflectors for antenna installations in aircraft units. It is stated in the foreword that the Soviet Union produces and uses foam plastic sheets based on thermoplastic and thermosetting polymers of rigid, elastic, foamy, and porous structure. Fifteen such plastics including some of their specifications and applications are listed. There are no bibliographies but the authors cite Soviet and other authorities including A.A. Berlin, the author of Osnovy proizvodstva gazonapolnennykh plastmass i elastomerov (Principles of Production of Gas Filled Plastics and Elastomers) published by Goskhimizdat in 1954.

TABLE OF CONTENTS:

Foreword

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Kazakova, Z.I. and M.Ya. Borodin. Foaming Agents for Foam Plastics

7

Five commercial methods for foam plastic production with the aid of foaming agents are described. Foaming agents are classified into organic and inorganic groups and their properties are described. Nine requirements are listed for an ideal foaming agent, but such an agent is still unavailable. The review shows that many organic foaming agents are

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successfully applied to the production of foam plastics but that the following are preferable: 1) N, N'-dimethyl-N, N'-dinitrosoterephthalamide 2) N, N'-dinitrosopentamethylenetetramine 3) n, n'-oxy-bis (benzosulfonylhydrazide) and 4) azodicarbonamide.

Moiseyev, A.A., and T.F. Durasova. Foam Plastic Sheets Based on Polystyrene and Polyvinyl Chloride 19

Production of foam plastic sheets by the press and autoclave methods are described along with production from individual granules, as well as by mixing the composition on rollers. The technological process for the production of polystyrene and polyvinyl chloride foams is described giving the physical and mechanical properties of the foams. Soviet foam products are compared with those of Britain, the United States, East Germany and West Germany.

Rogov, L.V., and V.V. Pavlov. Production of Polystyrene Foam Based on Different Foaming Agents 45

This study presents experimental data on the physical and mechanical properties of polystyrene foam produced using four different foaming

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Pavlov, V.V., M.S. Goryachev, and T.F. Durasova. Using Polyurethane Foam Sheets in Aircraft Structures

131

This study contains data on the technology of producing radomes and dielectric grating reflectors for antenna installations. It also includes data on various ways of filling the structures with foam material

Borodin, M.Ya., and Z.I. Kazakova. Foam Plastic Sheets From Organic Silicon 157

This study contains data on the production technology and properties of foam plastic sheet K-40 made from organic silicon. High thermal stability and good dielectric and heatproof properties make this foam plastic suitable for applications in the field of radio engineering and heat insulation at temperatures of 200-250° up to 500 hours and at temperatures of 300-350° up to 50 hours.

Losev, I.P., D.A. Kuznetsov, and V.D. Valgin. Foam Plastic Sheets Based on Polyepoxy Resins With Aromatic Diamines

167

This study contains experimental data on the production technology and properties of foam plastic sheets made from polyepoxy resins with aromatic diamines. It also includes data on the interaction of such

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37776

S/661/61/000/006/071/081
D247/D302

15.8170

AUTHORS: Borodin, M. Ya., Kazakov, Z. I., Koroleva, A. P. and
Popov, V. A.

TITLE: Foam plastics based on silico-organic resins and their
combination with organic polymers

SOURCE: Khimiya i prakticheskoye primeneniye kremneorganicheskikh
soyedineniy; trudy konferentsii, no. 6: Doklady, diskus-
sii, resheniye. II Vses. konfer. po khimii i prakt. prim.
kremneorg. soyed., Len. 1958. Leningrad, Izd-vo AN SSSR,
1961, 304-306

TEXT: Two types of silico-organic resins were investigated: Resins
for layer foams and resins from acetoxysilanes. The coefficient of
contraction, mechanical durability and dielectric properties were
considered. Some of the uses of the layer foams were mentioned.
Aluminum powder as a filler was assessed (thermostability being ob-
tained up to 400°C). In the discussion the minimum weight by volume
and the water capacity for the silico-layer foams were given. ✓

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S/081/62/000/002/100/107
B110/B101

AUTHORS: Kazakova, Z. I., Borodin, M. Ya.

TITLE: Gas formers for foam plastics

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 2, 1962, 569, abstract
2P48 (Sb. "Penoplastmassy". M., Oborongiz, 1960, 7 - 18)

TEXT: The application of gas formers in the production of foam plastics and methods of determining their foaming capacity are described. The characteristics of the most used inorganic and organic foam formers are mentioned. (18 references.) [Abstracter's note: Complete translation.]



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38590

s/081/62/000/010/073/085
B166/B144

15.8170

AUTHORS: Borodin, M. Ya., Kazakova, Z. I.

TITLE: Organosilicon foam plastics

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 1962, 603, abstract
10P59 (Sb. "Penoplastmassy". M., Oborongiz, 1960, 157-166)

TEXT: A foam plastic type K-40 (K-40) has been developed on the basis of type K-40A (K-40A) silicon resin (softening point 60-80°C, gelation time at 200°C 5-30 min, volatile content in 3 hours at 150°C ≤ 1%). A mixture of azo-bis-isobutyro nitrile (porophor N) and amino guanidine-bis-carbonate (AG) was used as a porophor. Foaming of the composition in the mold at 90-100°C was followed by further heating at 150°C (3 hours) and 250°C (24-48 hours). When the material is fully cured the shrinkage amounts to 2.5-3%. K-40 foam plastic is stable at high temperatures and can withstand a temperature drop of 150°C. The introduction of 12 parts by weight of PAK-4 (PAK-4) aluminum powder into the foam plastic allows of increasing this temperature difference to 250°C. After the plastic has been heat-treated for a long time at 400°C (6 hours) and 500°C (2 hours) the linear

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Organosilicon foam plastics

S/061/62/000/010/073/085
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dimensions of the specimens are reduced by 16-18%, the weight losses amount to 20-25%, and the volume weight is increased. Such specimens do not vary in strength when heated from 20 to 400°C. The K-40 foam plastic swells in organic nonpolar and weakly polar solvents. This plastic is noncombustible. The cured foam plastic does not cause corrosion of nonferrous or ferrous metals. It is easily worked with cutting tools, and can be sawn and planed. It can be cemented. K-40 is recommended for use in structures intended for radio engineering and heat-insulating purposes working at 200-250°C for up to 500 hours and at 300-350°C for up to 50 hours. [Abstracter's note: Complete translation.]

X

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ALEKSANDROV, Avraam Yakovlevich, prof.; BORODIN, Mikhail Yakovlevich;
PAVLOV, Viktor Vasil'yevich; KURSHIN, L.M., kand. tekhn.nauk,
red.; GORTSUYEVA, N.A., red. izd-va; NOVIK, A.Ya., tekhn. red.

[Elements with foamed plastic filters] Konstruktsii s zapolnite-
liami iz penoplastov. Pod obshchei red. A.IA.Aleksandrova.
Moskva, Oborongiz, 1962. 186 p. (MIRA 15:7)
(Plastic foams) (Sandwich construction)

POPOV, V.A.; MOISEYEV, A.A.; BORODIN, M.Ya.; KONDRAT'YEVA, V.A.;
GORSKIY, K.P.; KAZAKOVA, Z.I.; TROYAN, G.V.; DURASOVA, T.F.;

[Foam plastics and porous plastics] Penoplasty i poroplasty.
Moskva, Goskhimizdat, 1962. 30 p. (MIRA 16:8)

1. Moscow. Vystavka dostizheniy narodnogo khozyaystva SSSR.
(Plastics)

SAMOCHERNOV, Ye., student; BORODIN, N., student

An evening school on a communal basis. Sov. profsoiuzy 16 no.23:
34-35 D '60. (MIRA 14:1)

1. Predsedatel' profkoma Chitinskogo gosudarstvennogo pedagogicheskogo
instituta (for Samochernov). 2. Sekretar' komiteta Vsesoyuznogo
Leninskogo kommunisticheskogo soyuza molodezhi (for Borodin).
(Chita—Evening and continuation schools)

BORODIN, N., prepodavatel' fizicheskogo vospitaniya

How we train qualified sportsmen. Voen. znan. 40 no.8:38
Ag '64. (MIRA 17:11)

1. Srednyaya shkola No.95, Khar'kov.

SOV/32-25-6-26/53

16(2)

AUTHORS:

Serensen, S. V., Borodin, N. A.

TITLE:

On the Statistical Interpretation of the Results of Static Fatigue Tests (O statisticheskoy obrabotke rezul'tatov dlitel'nykh staticheskikh ispytaniy)

PERIODICAL:

Zavodskaya Laboratoriya, 1959, Vol 25, Nr 6, pp 722 - 726 (USSR)

ABSTRACT:

To obtain reliable results in the determination of the limit of static fatigue strength at a given time and temperature several research workers (Refs 1,2) suggest that tests be carried out on 15-20 samples at various stress levels, and that results be interpreted statistically (Refs 3-5). This is based on the assumption that the dispersion of the experimental values obtained under equal conditions obeys one of the probability laws of distribution. The present paper analyzes the distribution law of the test duration τ (which is necessary for the destruction under a certain stress) as well as the corresponding reduction of the cross section at the sample neck ψ_k on destruction. Tests on 100 standard samples of the aluminum alloy V-95 under stresses of 15 kg/mm² and temperatures of $200 \pm 20^\circ$ were made on K-3A machines for this purpose. The durability τ of the samples does not obey the normal distribution law (Fig 1), while

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On the Statistical Interpretation of the Results of
Static Fatigue Tests

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the values of $lg\tau$ and $lg\psi_k$ settle along a straight line and thus exhibit a normal distribution. The parameters of the distribution function of the quantities $lg\tau$ and $lg\psi_k$ are given (Table 1), and it is stated that the hypothesis of the distribution normality for $lg\tau$ and $lg\psi_k$ is sufficiently reliable. The results of static tests on four stress levels on V-95 samples are given as an example of a statistical interpretation (Fig 3), as well as the parameters of the distribution function of the 90% reliability intervals (Table 2). The fatigue strength narrows proportionally to stress. The statistical interpretation described was made use of for the evaluation of the influence exerted by silicon impurities in the V-95 alloy upon fatigue strength and plasticity. A decrease in the Si content from 0.5% to 0.03% causes a rise in the value ψ_k from 45-50% to 75-85%. Pertinent data of destruction probability, as well as other comments with respect to the test accuracy are also given (Table 3). There are 6 figures, 3 tables, and 7 references, 5 of which are Soviet.

Card 2/2

BORODIN, N. A. Cand Tech Sci — (diss) "Extended durability of
aluminum alloys in connection with certain constructional
factors," Moscow, 1960, 13 pp, 150 cop. (Inst. of Machine Studies, AS USSR)
(KL, 44-60, 130)

83311

S/179/60/000/004/010/027

E191/E181

188200 also 2308

AUTHORS: Borodin, N.A., and Serensen, S.V. (Moscow)

TITLE: On Long-time Static Failure in a Zone of Stress Concentration

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1960, No 4, pp 65-72

TEXT: The analysis of the conditions of creep failure in regions of stress concentration requires a knowledge of the strain and stress distributions in the process of applying the load. The Neuberger solution for the region of a notch is limited to elastic conditions, which prevail only in the beginning with specimens operating for long periods at elevated temperatures. A re-distribution takes place with the appearance of plasticity. Analytical solutions under creep conditions have been obtained by Russian investigators, but without experimental verification. Experimental methods were developed later. The present paper deals with the analysis of the strain and stress condition in the zone of stress concentration near a hole in a thin plate under conditions of creep. The grid method is used in the form of micro-grids introduced earlier for the study of the micro-plasticity of alloys.

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On Long-Time Static Failure in a Zone of Stress Concentration

The grid is inscribed by the diamond pyramid of a micro-hardness tester. The local stress concentrations due to the grid lines of about one micron depth can be ignored under conditions of stress relaxation. The higher resolution demanded in the present paper was achieved by using a comparator with a scale division of 0.3 microns. Precision grids with a pitch from a few microns to 1.5 mm can be drawn to an accuracy of 0.3 microns. V-95 aluminium alloy strips of 30 mm width, 1 mm thickness and a hole diameter of 6 mm, were tested permitting the approximation of an infinitely wide plate in a plane stress state. The tests were conducted at 200 °C. Deformations were measured with the same comparator. With a length of base of 0.4 mm, an accuracy of measurement of 0.05% was possible. Earlier experiments have shown that a length of base amounting to 20% of the notch radius caused an error of only 1.1%, compared with a zero base. Periodically, every twenty hours, the specimens were removed from the testing machine and the deformations measured. With this technique the purely plastic creep deformations were obtained. The elastic components are small

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On Long-Time Static Failure in a Zone of Stress Concentration and can be accounted for by analysis. A discussion of basic analytical propositions in the range of steady creep and some subsidiary tests are reported to verify the effectiveness of the experimental conditions. To determine the assumption that failure starts not at the hole contour but at some distance from it, in the zone of maximum deformations, specimens were tested in a specially built furnace where they could be photographed during the test with a magnification of 40. Tests to failure of specimens with and without holes were carried out at several levels of nominal stress, in order to determine whether the reduced notch sensitivity at elevated temperatures, as found in short-time static tests, also applies to long-time tests. Among the conclusions from this study, it was found that the concentration of creep deformations around a hole in a plate initially diminishes somewhat for a few hours but remains high throughout the test period. The largest deformation occurs at a distance of 0.2 - 0.3 mm from the hole edge. In the concentration zone, a substantial stress relaxation is observed, but not enough to eliminate a significant stress concentration until

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On Long-Time Static Failure in a Zone of Stress Concentration

failure. The highest rate of relaxation takes place in the first few hours of testing. The failure starts a small distance from the hole edge in a thinned out cross-section of the specimen. The development of a local deformation in the hole region begins substantially earlier than the complete failure of the specimen. The creep strength limit in terms of nominal stresses based on the criterion of the beginning of local deformation is lower in specimens with holes than in solid specimens. There are 10 figures and 9 references: 7 Soviet, 1 English and 1 German. X

SUBMITTED: April 22, 1960

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68288

18.8200

28(5)

AUTHORS:

Serensen, S. V., Borodin, N. A.

S/032/60/026/02/029/057
B010/B009

TITLE:

Peculiarities of Tests of the Static Fatigue Strength of
Aluminum Alloys 21

PERIODICAL:

Zavodskaya laboratoriya, 1960, Vol 26, Nr 2, pp 193 - 197
(USSR)

ABSTRACT:

Investigations of the effect of the absolute dimensions of samples upon the static fatigue strength in the case of dilatations of the V95 aluminum alloy were carried out. The stresses in this alloy are relieved and it becomes more plastic when subjected to rather high temperatures for a long time. The fatigue strength tests were carried out by means of K-3A and DST-5 machines at 200°. An analysis of the results obtained and the statistical evaluation of the experimental data (Table) permits the following conclusions to be drawn: The influence of the absolute dimensions of the samples upon their fatigue strength is basically determined by a reduction of the uniform plastic deforming capability with the increase in absolute dimensions. It is inexpedient to test the fatigue strength of samples with diameters below 3-6 mm. If such samples are used,

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Peculiarities of Tests of the Static Fatigue
Strength of Aluminum Alloys

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B010/B009

the effect depending on the order of dimension of the sample must be taken into account at the transition to the results obtained with samples of diameters of 8-10 mm. A reliable evaluation of the effects of technological and constructional factors (e.g., the absolute dimensions of the samples) upon the fatigue strength is possible only if the values found are analyzed in consideration of their spread. For this purpose the tests must be carried out with the same stress on a number of samples (at least 15-20), and the values obtained must be treated statistically on the basis of the normal logarithmic law of distribution. The papers by T. A. Kontorova and Ya. I. Frenkel' (Ref 2) and N. G. Plekhanova and S. I. Ratner (Ref 5) are mentioned in the paper. There are 5 figures, 1 table, and 5 references, 4 of which are Soviet.

ASSOCIATION: Moskovskiy aviatsionnyy tekhnologicheskii institut (Moscow)
Aviation Technological Institute ✓

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20 - 200

31646
S/536/61/000/051/001/006
D040/D112

188200 2408 2808 1413

AUTHORS: Borodin, N.A., Giatsintov, Ye.V., Stepnov, M.N.

TITLE: The effect of the technology of fabrication of semiproducts made from D16 and V95 aluminum alloys on the mechanical properties of the latter

SOURCE: Moscow. Aviatsionnyy tekhnologicheskii institut. Trudy, no. 51, 1961, 5-38. Issledovaniya ustalosti i dlitel'noy staticheskoy prochnosti alyuminiyevykh splavov

TEXT: The article describes experimental investigations made to establish the optimum technological conditions for fabricating blanks of D16 (D16) and B95 (V95) aluminum alloys, i.e. conditions resulting in the highest static and dynamic strength. The effect of the following factors was studied: The state of the blanks and the method by which they were heated prior to pressing; the pressing temperature; the heating procedure for hardening; the content of Fe and Si. The chemical composition of the alloys is as follows (Table 1):

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Alloy	Heat no.	The content of elements, %							
		Cu	Mg	Mn	Fe	Si	Ti	Zn	Cr
D16	1	4.49	1.45	0.71	0.22	0.19	0.03	0.07	-
	2	4.50	1.68	0.65	0.14	0.03	0.03	0.10	-
	3	4.47	1.40	0.68	0.32	0.026	0.03	0.10	-
V95	1	1.75	2.45	0.32	0.34	0.22	-	6.49	0.13
	2	1.74	2.76	0.37	0.10	0.03	-	6.46	0.16
	3	1.84	2.82	0.30	0.16	0.50	-	6.54	0.16

The article includes details of procedures used for preparing pressed bars and rods from cast ingots, the shape and dimensions of test specimens, the temperatures and duration of heating, and the mechanical testing techniques. The tests consisted in determining the static strength, the strength after long-time static tests, and the fatigue resistance. Statistically processed data are given in graphs and tables. Conclusions: (1) The dispersion of

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The effect of the ...

the fatigue strength and long-time static strength values depends considerably on the level of the stresses and the duration of destruction. The dependence of dispersion of the life values in fatigue tests on the reduction of stresses is not linear. For example, reduction of the stress level from $2\sigma_{-1}$ to $1.2\sigma_{-1}$ was accompanied by 2-6 times higher and even 15 times higher dispersion. However, in tests for long-time strength, the dispersion of the logarithm of the time up to destruction decreases linearly upon reduction of the stresses. This is due to an increase in the time needed for destruction, which leads to more complete homogenization of the metal structure and higher plasticity. (2) A comparison of the alloy properties based on the mean values of the mechanical characteristics is not sufficient, and may sometimes lead to wrong conclusions even although a large number of specimens is tested. For instance, the fatigue limit of specimens taken from V95 alloy bars pressed at 360°C was 9% lower than that of specimens from bars pressed at 450°C , but a comparison of the left confidence limits on fatigue curves plotted for 5% failure probability whereby dispersion of the properties was taken into account, proved that the life of the alloy pressed at 360°C was 1.5-2 times longer. Analogous results were obtained in comparisons of the D16 and V95 alloys. (3) The studied technological factors affect the

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The effect of the ...

strength and dependability of the D16 and V95 alloys in the following ways:
(a) Homogenizing of ingots prior to pressing results in a considerable reduction of the dispersion of the fatigue and long-time static characteristics, and an increase in their life. The life determined by the left confidence limits of the fatigue and long-time strength curves for a 5% destruction probability increases $1.2 \div 2$ times; (b) Heating of ingots in induction furnaces instead of in electric resistance furnaces prior to pressing, results in a slightly shorter life in fatigue tests (up to 10-30%) and has scarcely any effect on the long-time static strength; (c) Increasing the pressing temperature from $360 \div 380^{\circ}\text{C}$ to $450 \div 460^{\circ}\text{C}$ is accompanied by a continuous increase of the dispersion of the fatigue resistance and the fatigue limit values (upon a temperature increase to $410-420^{\circ}\text{C}$). The optimum pressing temperature for the D16 alloy is 420°C , and for the V95 alloy $360-410^{\circ}\text{C}$; (d) Heating for hardening in a saltpeter bath or in a vertical air furnace gives equivalent results as far as the static and fatigue characteristics are concerned; (d) Reduction of the Si and Fe content lowers the dispersion and increases the fatigue resistance in both alloys, and increases the D16 alloy. The optimum Si content in the V95 alloy, giving the greatest long-time strength is about 0.2%. Yu.M. Vaynblat.

Card 4/5

The effect of the ...

31646
S/536/61/000/051/001/006
D040/D112

P.G. Miklyayev and F.K.Bal'zovskiy participated in the experiments. There are 16 tables, 21 figures and 6 Soviet references.

Card 5/5

10.7300

31649

S/536/61/000/051/004/006
D040/D112

AUTHOR: Borodin, N.A.

TITLE: The effect of stress concentration on the creep-rupture behaviour of V95 aluminum alloy

SOURCE: Moscow. Aviatsionnyy tekhnologicheskiy institut. Trudy, no.51, 1961, 74-84. Issledovaniya ustalosti i dlitel'noy staticheskoy prochnosti alyuminiyevykh splavov

TEXT: Results are presented of an experimental investigation of the effect of the concentration of stresses on the creep-rupture behaviour and plasticity of aluminum alloys. The $\text{B} 95$ (V95) structural aluminum alloy was chosen as experiment material. The ultimate reduction in area of smooth specimens of V95 at 200°C and 100 hrs life is 75%. The specimens used in the experiments were taken from metal pressed with a reduction degree of 90%. The metal was subjected to homogenizing heat treatment prior to pressing, and to quenching and artificial aging after pressing. The notches on notched specimens were made with different radii so as to cause different stress concentrations and measured with a tool microscope with an accuracy of up to 5μ . Neyber's formulas (Ref.2, Neyber, G., Kotsentratsiya napryazheniy [Stress concen-

Card 1/2

The effect of stress ...

31649
S/536/61/000/051/004/006
D040/D112

tration], ONTI, Gostekhnizdat, 1947) were used for calculating the concentration factors. The specimens were tested on **K-3A** (K-3A) machines at 200°C and a stress of 15 kg/mm². The statistically processed experimental data are given in graphs and tables. The following conclusions were drawn: (1) The creep-rupture resistance of the V95 alloy increases considerably with increasing nonuniformity of stress distribution in the notch zones. This conclusion may apparently be applied to any plastic alloys that become only slightly embrittled in prolonged static tests; (2) The dispersion of the creep-rupture and plasticity characteristics increases with increasing stress concentration and stress gradient, which is apparently connected with the greater effect of the structural nonhomogeneity and accidental faults in the metal. Reference is made to similar investigations carried out previously with refractory steel and nickel alloys. M.I. Kurmanov and R.S. Kaplan investigated the notch sensitivity of **40XN** (40KhN) and **ЭИ10** (EI10) steel (Ref. 1: "Zavodskaya laboratoriya", 1950, no.8). The composition of EI10 steel is: 0.3% C; 0.23% Si; 0.48% Mn; 1.17% Ni; 0.35% Mo; 0.15% V; 0.016% S; 0.018% P. There are 9 figures, 4 tables and 4 Soviet references.

Card 2/2

10.7300

31650
S/536/61/000/051/005/006
D040/D112

AUTHOR: Borodin, N.A.

TITLE: On methods of determining the creep-rupture limit of low-embrittling materials.

SOURCE: Moscow. Aviatsionnyy tekhnologicheskiiy institut. Trudy, no. 51, 1961, 85-89. Issledovaniya ustalosti i dlitel'noy staticheskoy prochnosti alyuminiyevykh splavov

TEXT: Tests made to determine the creep-rupture limit of specimens of B95 (V95) structural aluminum alloy led to the conclusion that the changing stress caused by reduction of the cross-sectional area during such tests must be taken into account. The specimens were taken from pressed metal and tested on K-3A (K-3A) test machines at 200°C. Deformations were measured by dial extensometers with an accuracy of $\pm 5\mu$. The obtained data are illustrated in graphs. It was found that the smaller was the experimental basis, i.e. the shorter the duration of the tests, the greater the error in determination of the creep-rupture limit when the reduction of the cross-section area of the specimens was ignored. It is pointed out that the variation of stress may also have a marked effect on the creep-rupture limit of any materials in which considerable uniform reduction of area takes place during the tests, but not in metals subject to embrittlement at high temperatures. In this latter case, Card 1/2

On methods of determining ...

S/536/61/³¹⁶⁵⁰000/051/005/006
D040/D112

the error caused by the stress variation will be insignificant. It is recommended to conduct such tests at a constant stress instead of at a constant load. There are 5 figures, 1 table and 2 Soviet references.

X

Card 2/2

SERENSEN, Sergey Vladimirovich; GIATSINTOV, Yevgeniy Valentinovich;
KOGAYEV, Vladimir Petrovich; STEPNOV, Mikhail Nikitovich;
Prinimali uchastiye: BAL'ZOVSKIY, F.K.; BORODIN, N.A.; VETKIN,
I.I.; IVANOV, G.T.; ZASLAVSKIY, B.V., kand.tekhn.nauk, red.:
NOVIK, A.Ya., tekhn.red.

[Structural strength of airplane alloys] Konstruktsionnaya
prochnost' aviatsionnykh splavov. Moskva, Gos.nauchno-tekhn.
izd-vo obor., 1962. 100 p. (Moscow. Aviatsionnyi tekhnologicheski
institut. Trudy, no.54). (MIRA 16:2)

(Aluminum alloys--Testing)

S/032/63/029/001/022/022
B101/B186AUTHOR: Borodin, N. A.

TITLE: Application of precision graduation grids

PERIODICAL: Zavodskaya laboratoriya, v. 29, no. 1, 1963, 96 - 99

TEXT: For the measurement of plastic deformations it is suggested that the specimens should have grids engraved upon it with graduations ranging from a few microns to 0.8 mm, using a diamond and the micrometer screw of a ПМТ-3 (PMT-3) microhardness gauge. Similar experiments by W. F. Brown, M. N. Gones (Iron Age, v. 158, p. 12 (1946)) are mentioned. The grid remains distinctly visible at high temperatures and deformations. With 1 g load, the width of a line is 2-3 μ . Under direct illumination the bottom of the notch (only a few tenths of a micron wide) is clearly visible. This permits the measurement of deformations of no more than 0.05 %, which was proved in creeping tests of perforated aluminum alloy foils at 200°C. Local stresses caused by engraving might be a drawback. Since, however, the depth of the notch is in the order of one micron, this is likely to affect only very brittle material, or tests in which the surface quality plays a role. There are 2 figures.

Card 1/1

ACCESSION NR: AT4044780

S/2536/64/000/061/0026/0037

AUTHOR: Borodin, N. A., Giatsintov, Ye. V., Kogayev, V. P., Stepanov, M. N.

TITLE: Fatigue strength of aluminum alloys during an asymmetric stress cycle

SOURCE: Moscow. Aviatsionnyy tekhnologicheskiy institut. Trudy*, no. 61, 1964. Konstruktsionnaya prochnost' legkikh splavov i staley (Structural strength of light alloys and alloy steels), 26-37

TOPIC TAGS: aluminum alloy, alloy fatigue strength, asymmetric stress cycle, critical stress amplitude, mean stress, endurance characteristic dispersal, mean alloy life, alloy AVT, alloy AVG, alloy AVT1, alloy VD17, alloy AK4-1, alloy 24S-T4, alloy 14S-T6, alloy 75S-T6

ABSTRACT: Experimental data obtained by others were processed statistically to analyze the effects of an asymmetric stress cycle on fatigue strength of aluminum alloys. Results for a group of ten alloys indicate that the latter are quite sensitive to cycle asymmetry, with $\psi = 0.25 - 0.4$ for $N = 10^7$ cycles. A sharper decrease in the peak stress amplitudes σ_a accompanied low values of mean stress σ_m for a number of the tested alloys and ψ proved variable. The function $\sigma_a = \sigma_{-1} (1 - \frac{\sigma_m}{\sigma_v})$, where σ_v is tensile strength and σ_a

Card 1/2

ACCESSION NR: AT4044780

is stress amplitude, is evolved for approximate evaluations of σ_a for asymmetric cycles when σ_m varies by 0 - 0.3 from the tensile strength. The factor ψ decreases as endurance increases, down to 50% of its initial value when N increases from 10^4 to 10^7 . Dispersal of endurance characteristics increases for an asymmetric cycle as σ_a drops and endurance increases. It is lower for the asymmetric than for the symmetric cycle at equal absolute σ_a . The discrepancy in mean square deviation $\bar{S}$ decreases as σ_a increases. Dispersal is nearly identical at equal average endurance for either stress cycle, except that it is somewhat lower for the symmetric cycle at high average endurance values. Orig. art. has: 5 tables, 12 graphs and 3 formulas.

ASSOCIATION: Aviatsionnyy tekhnologicheskii institut, Moscow (Institute of Aviation Technology)

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF SOV: 002

OTHER: 001

Card 2/2

ACCESSION NR: AT4044784

S/2536/64/000/061/0073/0085

AUTHOR: Serensen, S. V., Borodin, N. A.

TITLE: Stress concentration and creep flow in aluminum alloy plates

SOURCE: Moscow. Aviatsionnyy tekhnologicheskii institut. Trudy*, no. 61, 1964. Konstruktsionnaya prochnost' legkikh splavov i staley (Structural strength of light alloys and alloy steels), 73-85

TOPIC TAGS: aluminum alloy, alloy V95, alloy deformation, creep flow, stress concentration, stress relaxation, initial stress gradient, zone displacement, aluminum plate

ABSTRACT: Smooth or centrally perforated plates of aluminum alloy V95 (width 30 mm, thickness 0.6 or 1.00 mm, aperture diam. = 3, 6, 8 or 15 mm) were tested on a K-3A unit at an initial maximum stress of 27 kg/mm² and 200 or 150C (theoretical stress concentration 2.15-2.70, maximum stress gradient 2.0 - 6.0 for various samples) by employing the precision scale grid method (line frequency 0.1 - 0.6 mm, depth ~μ) to study deformation in stress concentration areas. The results indicate that stress relaxation weakens the effect of stress concentration on stress-rupture strength. The rate of stress relaxation depends essentially on the initial stress gradient, decreasing with a decrease in the gradient, which also reduces the periods to inception of local deformation and to total

Card 1/2

ACCESSION NR: AT4044784

failure. Loss of deformation stability in the aperture area is related to the magnitude of total creep flow in that area, rather than to the level of stress. The rate of creep in layers removed from the aperture contour becomes higher than in those adjacent to it as time elapses, the peak deformation zone is displaced and sub-layer failure occurs. Orig. art. has: 8 figures, 1 table, and 8 numbered equations.

ASSOCIATION: Aviatsionny*y tekhnologicheskii institut, Moscow (Institute of Aviation Technology)

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF SOV: 00%

OTHER: 000

Card 2/2

BORODIN, N.A.

Selecting a base for dividing grids used for studying local
plastic flows. Zav. lab. 30 no.1:90-92 '64. (MIRA 17:9)

1. Moskovskiy aviatsionnyy tekhnologicheskij institut.

BORODIN, N.A.; GLATSINTOV, Ye.V.; KOGAYEV, V.P.; STEPNOV, M.N.

Fatigue resistance of aluminum alloys in case of an asymmetric stress cycle. Trudy MATI no.61:26-37 '64.

(MIRA 17:10)

SERENSEN, S.V.; BORODIN, N.A.

Concentration of stresses and creep deformations in aluminum
alloy plates. Trudy MATI no.61:73-85 '64.

(MIRA 17:10)

BORODIN, N.F. (Moskva)

Treatment of endarteritis obliterans with subcutaneous administration
of oxygen in the polyclinic. Vrach.delo no.10:1067-1071 0'58
(MIRA 11:11)

1. 15-aya gorodskaya bol'nitsa (nauchnyy rukovoditel' raboty-
prof. A.V. Gulyayev).

(ARTERIES--DISEASES)

(OXYGEN--THERAPEUTIC USE)

BORODIN, N.G.

Water and fat metabolism of bone marrow after blood loss and blood transfusion. Izv. AN Kazakh.SSR Ser,khir. no.1:69-73 '47. (MLRA 9:8)

1. Kazakhskaya respublikanskaya stantsiya perelivaniya krovi i kafedra biokhimii Kazakhskogo meditsinskogo instituta.

. (MARROW) (HEMORRHAGE) (BLOOD--TRANSFUSION)

BORODIN, N.G.

Total nitrogen and mineral constituents of bone marrow in acute hemorrhages. Izv.AN Kazakh.SSR Ser.khir. no.1:74-78 '47. (MLRA 9:8)

1. Kazakhskaya respublikanskaya stantsiya perelivaniya krovi i kafedra biokhimii Kazakhskogo meditsinskogo instituta.
(MARROW) (HEMORRHAGE)

PROCEDURES AND PROPERTIES INDEX																									
BORODIN, N. G.																									
ca																									
Sugar content in the fluid of the frontal eye chamber in some physiological and pathological conditions. A. D. Bernshteyn and N. G. Borodin (Med. Inst., Ivanovo). <i>Russk. Eksp. Biol. Med.</i> 24: 474-6(1948).—Rabbits with induced hyperglycemia (intravenous infusion of 10% glucose soln.) show near-proportionality between sugar concn. in the frontal eye fluid and the level of blood glucose. A similar result was noted in hypoglycemia induced by insulin. Considerable temporal fluctuations were noted, however; they were probably due to the lack of stabilization of such a small chamber in respect to dialytic processes with the blood. In rabbits subjected to unilateral severance of the sympathetic nerve at the neck and extirpation of the ganglia, the sugar level was higher in the affected eye, probably because of increased blood flow, and the hypo- and hyperglycemic effects appeared earlier in the affected eye, probably for the same reason. Partial compression of the ophthalmic artery for 10-15 min. caused a 10-20% drop in the sugar level in the eye fluid.																									
G. M. Koshapod																									
ASM-5LA METALLURGICAL LITERATURE CLASSIFICATION																									
SEARCHED SERIALIZED INDEXED FILED																									
NOV 1948																									

OSTROUSHKO, I.A.; YEMEKEYEV, V.I.; DORODNOV, V.S.; BORODIN, N.I.;
KRIVCHIKOV, P.F.; CHUGUNOV, L.F.

Optima conditions for BA-100 drill rig operations in hard rocks.
Izv. vys. ucheb. zav.; tsvet. met. 4 no.3:12-18 '61. (MIRA 15:1)

1. Severokavkazskiy gornometallurgicheskiy institut i Tyrnyauzskiy
kombinat. Rekomendovana kafedroy spetsial'nykh kursov gornogo
dela Severokavkazskogo gornometallurgicheskogo instituta.
(Rock drills)

BORODIN, N.I.

Performance and causes for the breakdown of motors on BA-100
boring machines. Izv. vys. ucheb. zav.; tsvet. met. 4 no.5:
46-49 '61. (MIRA 14:10)

1. Severokavkazskiy gornometallurgicheskiy institut, kafedra
obshchey i gornoy elektrotekhniki.

(Boring machinery--Electric driving)

(Electric motors, Induction)

BORODIN, N. I.

"Computation of Some Electrical Circuits With Loop Characteristics." Cand
Tech Sci, Leningrad Higher Engineering Maritime School imeni Admiral S. O. Makarov,
Min Maritime Fleet USSR, Leningrad, 1955. (KL, No 17, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended
at USSR Higher Educational Institutions (16).

9 (7), 28 (2)

AUTHORS:

Vandura, V. Ye., Engineer, Borodin,
N. I., Candidate of Technical Sciences

SOV/119-59-8-4/15

TITLE:

A Quick-acting Ring Counter

PERIODICAL:

Priborostroyeniye, 1959, Nr 8, pp 11-15 (USSR)

ABSTRACT:

Among the possible schemes for the discrete counting of pulses the ring counters are of great interest, and figure 1 shows a principle scheme of such a ring counter. The inclination to malfunction of this scheme is pointed out, and it is found that by an increase of the number of tubes a decrease of the potential differences at the grids of the tubes occurs. In this way ring counters with more than six steps become very uncertain. In trigger-ring-counters this phenomenon does not occur with an increase of the number of tubes; such a trigger-ring-counter is shown by figure 2. In these schemes the grids are adjacent to voltage dividers and the grid voltage is independent of the number of steps. Figure 4 shows the voltage variations at the anodes and the grids of the tubes after which the system of equations (1) for the calculation of the scheme at static operation is given. As the circuit under investigation is one with double triodes, the second trigger serves as a basis and the

Card 1/2

A Quick-acting Ring Counter

SOV/119-59-8-4/15

case is investigated in which the left side of this trigger is open and the right is closed. For this case the anode voltages are given by the equations (4) and (5). For the analogous reversed case the anode voltages are given by the equations (6) and (7). Next, the grid voltages are derived: equations (8) and (11). The two conditions for the exact operation of the scheme are then given: The inequalities (12) and (13). From the formulas thus obtained formula (15) is finally developed for the grid voltage of the right side and the inequality (16) is given. The voltage difference at the grids is calculated by means of formula (17). In the last part of the present paper the permissible error limits of the elements used in this circuit are evaluated, and formulas (27) and (28) are developed for the determination of the permissible error limits. In conclusion, calculation of an example is carried out. There are 4 figures and 3 references, 2 of which are Soviet.

Card 2/2

RUBINSHTEYN, Yakov Moiseyevich.[deceased]; STARIK, M.Ye., dotsent, retsenzent;
BORODIN, N.I., dotsent, kand.tekhn.nauk, red.; PERSMAN, A.A.,
dotsent, kand.tekhn.nauk, red.; CHERNYAK, S.I., dotsent, kand.tekhn.
nauk, red.; DENISOV, K.N., red.isd-va; DROZHZHINA, L.P., tekhn.red.

[Radio wave propagation and antenna feeding devices] Rasprostranenie
radiovoln i antenno-fidernye ustroistva. Leningrad, Izd-vo "Morskoi
transport," 1960. 387 p. (MIRA 13:7)
(Radio waves) (Antennas (Electronics))

KOVAL'CHUK, Viktor Semenovich. Prinimal uchastiye KITAYEVICH, B.Ye.,
prepodavatel'; BORODIN, N.I., kand. tekhn. nauk, dotsent, retsen-
zent; REVUT, D.B., inzh., retsenzent; CHERKANOV, V.V., inzh., re-
tsenzent; TRUBAKOV, A.A., inzh., spets. red.; FRISMAN, Z.S., red.
izd-va; KOTLYAKOVA, O.I., tekhn. red.

[Fundamentals of radio engineering] Osnovy radiotekhniki. Lenin-
grad, Izd-vo "Morskoi transport," 1961. 279 p. (MIRA 14:10)
(Radio) (Radio in navigation)

BORODIN, N.I., inzh.

Protective groundings for underground mining under permafrost
conditions. Gor. zhur. no.9:45-48 S '63. (MIRA 16:10)

1. Moskovskiy institut radioelektroniki i gornoy elektromekhaniki.

BORODIN, N.I., inzh.

Area of application for the measurement of the insulation resistance in a.c. devices without cutting off the voltage. Izv. vys. ucheb. zav.; gor. zhur. 6 no.9:146-155 '63. (MIRA 17:1)

1. Moskovskiy institut radioelektroniki i gornoy elektromekhaniki. Rekomendovana kafedroy avtomatizirovannogo prrivoda i elektrifikatsii gornyykh predpriyatiy.

BORODIN, N.I., inzh.

Seasonal changes in the specific resistance of rocks in underground mine workings in permafrost ground. Izv. vys. ucheb. zav.; gor. zhur. 6 no. 12:155-159 '63. (MIRA 17:5)

1. Moskovskiy institut radioelektroniki i gornoy elektromekhaniki. Rekomendovana kafedroy avtomatizirovannogo privoda i elektrifikatsii gornykh predpriyatiy.

L 55210-65 EWT(1)/EWA(h) Feb

ACCESSION NR: AP5015252

UR/0286/65/000/009/0035/0035

AUTHORS: Benin, V. L.; Borodin, N. I.; Kizilov, V. U.; Lyakhovitskiy, Ye. M.

TITLE: Semiconductor voltage stabilizer. Glass 21, No. 170554

12
B

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 9, 1965, 35

TOPIC TAGS: voltage stabilizer, transistorized circuit

ABSTRACT: This Author Certificate presents a semiconductor voltage stabilizer containing a converter, rectifiers, a filter, a comparison circuit, and an amplifier. To broaden the range of regulated voltages and to improve the utilization of the power transistors, the reactance of a capacitor or inductor is used as the regulating element. The magnitude of the capacitive or inductive reactance depends on the frequency generated by the converter which is controlled by feedback from the load voltage (see Fig. 1 on the Enclosure). Orig. art. has: 1 diagram.

ASSOCIATION: none

SUBMITTED: 22Jul63

ENCL: 01

SUB CODE: EC

NO REF SOV: 000

OTHER: 000

Card 1/2

L 55210-65

ACCESSION NR: AP5015252

ENCLOSURE: 01

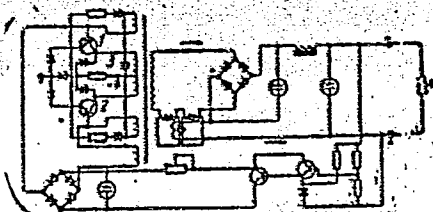


Fig. 1

1 and 2- transistors; 3- capacitive
reactance; 4- load

if
Card 2/2

BORODIN, N.I., kand.tekhn.nauk

Seasonal changes in the insulation resistance of cable networks in
nine sections, Prom. energ. 20 no.10:9-12 0 '65.

(MIRA 18:10)

ANDREYEV, Y.T., kand.tekhn.nauk; KONDRAT'EV, I.I., inzh.; BOR'DIN, N.A., inzh.;
GAYEV, A.Ye., inzh.

Underground installation of a flue. Prom.stroi. 42 no.7:14-26 '65.
(MIRA 18:8)

ANDREYEV Ye.T., inzh.; KONDRAT'YEV, L.I., inzh.; BORODIN, N.K., inzh.

Selecting the type of shaft formwork for lining vertical mine
shafts. Shakht. stroi. 9 no.2:20-21 F '65. (MIRA 18:4)

1. Sverdlovskiy gornyy institut (for Andreyev). 2. Trest Sverdlovsk-
shakhtorudstroy (for Kondrat'yev, Borodin).

KANDEL', Ye.A., inzh.; KONDRAT'YEV, L.I., inzh.; BORODIN, N.K., inzh.

Effective use of EDKZ electric detonators. Shakht.stroi.
no.11:27-28 N '59. (MIRA 13:3)
(Mining engineering--Equipment and supplies)

ANDREYEV, Ye.T., kand.tekhn.nauk; KONDRAT'YEV, L.I., inzh.;
VAKHROMOV, P.S., inzh.; BORODIN, N.K., inzh.

Erecting a crushing and skip hoisting complex at the
"Magnetitovais-bis" mine. Shakht.stroi. 9 no.11:15-18
N '65. (MIRA 1981)

1. Trest Sverdlovskshakhtorudstroy.

1ST AND 2ND COLUMNS										3RD AND 4TH COLUMNS									
COMMON ELEMENTS																			
COMMON VARIABLES INDEX																			
CA BORODIN, N. [M.]										17									
Production of sterile gelatin for injections. N. Borodin and P. Simvol. <i>Myasnaya i Molechnaya Prom.</i> 1945, No. 1, 44-9. Summary of the current Soviet production technique for prepn. of sterile gelatin for medicinal injections. The gelatin soln. in 0.5% NaCl is prepd. at 40-50° with agitation; the soln. is neutralized to bromothymol blue with NaOH and the warm soln. is treated with 30-40 cc./l. of clear albumin serum (from cattle), either fresh or stored frozen not over 10 days. The soln. is autoclaved for 0.5 hr. with 0.5 atm. steam, pressure-filtered, and packaged. The filled ampula are sterilized again as above. G. M. Kowaloff																			
ASB-3LA METALLURGICAL LITERATURE CLASSIFICATION																			
MATERIALS INDEX										E-217 AFTER TREATMENT									
REGIONAL INDEX										REGIONAL INDEX									
SUBGROUPS										SUBGROUPS									
SUBGROUPS										SUBGROUPS									

BORODIN, Nikita Nikitich

[Valuable experiment; data from the Rostov State Variety Testing
Station] TSennyi opyt po materialam Rostovskogo gossortouchastka.
Rostov, Rostovskoe obl. kn-vo, 1951. 18 p. (MLRA 10:4)
(Field crops)

COUNTRY : USSR
 CATEGORY : Cultivated Plants. Cereals. M
 ABS. JOUR. : RZhBiol., No. 23 1958, No. 104615
 AUTHOR : Borodin, N. N., Dukarevich, B. I.
 INST. : Don Zonal Scientific Research Institute of Agriculture.
 TITLE : Moisture-charging Applications of Water Under Winter Wheat.
 ORIG. PUB. : Byul. nauchno-tekhn. inform. Donsk. zonal'n. n.-i. in-ta s. kh., 1957, 1, 8-10
 ABSTRACT : Three-year experiments in the study of moisture charging applications of water under winter wheat, started in 1953 on the fields of kolhoz "Zavety Il'icha" in Rostov oblast' and continued on the fields of kolkhos imeni Molotov (the transfer of the site of the experiment was caused by a considerable rise in ground water). Data on the follow-up of the yield and the absolute weight of the grain for 3 years are cited. Pre-sowing moisture-charging irrigation is the

Card: 1/2

13

COUNTRY :
CATEGORY : M
ABS. JOUR. : RZhBiol., No.23, 1958, No. 104615
AUTHOR :
INST. :
TITLE :
ORIG. PUB. :
ABSTRACT : main link in the agricultural technique for winter wheat
under the conditions of irrigation with an obligatory
follow-up of the depth of the groundwater table. With the
level of groundwater deeper than 2 meters, the rate of the
moisture-charging application should comprise not less
than 1000-1200 m³/ha/. -- Ye. I. Saks

Card: 2/2

USSR/Soil Science - Tillage, Amelioration. Erosion.

J

Abs Jour : Ref Zhur Biol., No 1, 1959, 1418

Author : Borodin, N.N.

Inst : Zernograd State Selection Station

Title : Meteorological Conditions and Soils of Irrigated Sections.

Orig Pub : Sb. nauchn. rabot. Zernogradsk. gos. selekts. st., 1957, vyp. 2, 190-193

Abstract : Experimental irrigated sections were located on the 2nd terrace of the Manych river in the locality of the Vesel farm (Rostvorskaya Oblast). Results are presented of determinations of the physical properties of irrigated chernozem-meadow Solonchak soils and Cis-Caucasian carbonate chernozems.

Card 1/1

- 38 -

Borodin, N.N.

BORODIN, N.N., kand.sel'skokhozyaystvennykh nauk.

Importance of clean fallows in regions of the Northern Caucasus
with insufficient precipitation. Zemledelie 5 no.12:14-20 D '57.
(MIRA 11:1)

1.Donskoy zonal'nyy nauchno-issledovatel'skiy institut sel'skogo
khozyaystva.

(Caucasus, Northern--Fallowing)

~~BORODIN, N.N., kand.sel'skokhozyaystvennykh nauk~~

Harrowing winter crops in the Don Valley. Zemledelie 6
no.10:55 0 '58. (MIRA 11:11)

1. Donskoy nauchno-issledovatel'skiy institut sel'skogo khozyaystva.
(Don Valley--Tillage)

BORODIN, N.N., kand.sel'skokhozyaystvennykh nauk

Increasing the reliability of field tests conducted under typical conditions. Zemledelie 7 no.3:83-85 Mr '59. (MIRA 12:4)

1. Donskoy zonal'nyy nauchno-issledovatel'skiy institut sel'skogo khozyaystva.

(Agriculture--Experimentation)

BORODIN, N.N., land.sel'skokhozyaystvennykh nauk

Short-time fallowing in the Northern Caucasus. Zemledelie 7
no.6:20-26 Je '59. (MIRA 12:8)

1. Donskoy nauchno-issledovatel'skiy institut sel'skogo
khozyaystva.
(Caucasus, Northern--Fallowing)

BORODIN, N.N., kand.sel'skokhoz.nauk

Hasn't the conclusion been drawn too hastily? Zemledelie 7
no.10:80-81 0 '59. (MIRA 13:1)

1. Donskoy nauchno-issledovatel'skiy institut sel'skogo
khozyaystva.
(Plowing)

BORODIN, N.N., kand. sel'skokhozyaystvennykh nauk; VELICHKO, A.A., agronom

Collective and state farms of the Don Valley are introducing short-time fallowing. Zemledelie 8 no.6:60-63 Je'60. (MIRA 13:10)

1. Donskoy nauchno-issledovatel'skiy institut sel'skogo khozyaystva (for Borodin). 2. Rostovskoye oblastnoye upravleniye sel'skogo khozyaystva (for Velichko).
(Don Valley--Fallowing)

BORODIN, N.N., kand.sel'skokhozyaystvennykh nauk

Possibilities for increasing millet yields in the Don Valley.
Zemledelie 23 no.5:35-38 My '61. (MIRA 14:4)

1. Donskoy nauchno-issledovatel'skiy institut sel'skogo khozyaystva.
(Don Valley—Millet)

BORODIN, N.N., kand. sel'skokhozyaystvennykh nauk

Characteristics of tillage for spring barley in Rostov Province.
Zemledelie 25 no.8:50-54 Ag '63. (MIRA 16:10)

1. Donskoy nauchno-issledovatel'skiy institut sel'skogo khozyaystva
(for Borodin). 2. Kamenskaya sel'skokhozyaystvennaya opytnaya
stantsiya (for Yeremeyev).

(Rostov Province—Barley)

(Rostov Province—Tillage)

BORODIN, N.N., kand.sel'skokhoz. nauk

Crop rotation in the Don Valley. Zemledelie 26 no. 4:7-16
Ap '64. (MIRA 17:5)

1. Donskoy nauchno-issledovatel'skiy institut sel'skogo
khozyaystva.

L 61929-65 EWT(1)/EWP(m)/I/EED(b)-3 Pd-1/Pae-2 IJP(c)
 UR/0207/65/000/003/0100/0102
 ACCESSION NR: AP5018203

AUTHOR: Borodin, V. P. (Novosibirsk); Voytsekhovskiy, B. V. (Novosibirsk) 17
 8

TITLE: The use of flash photography for studying high-pressure impulse jets

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 3, 1965, 100-102

TOPIC TAGS: flash photography, high pressure impulse jet

ABSTRACT: A method has been devised to photograph fast-moving water jets using electric discharge as pulse brightening. The short light-up time within the discharge interval, about 3 μ sec, does not practically allow the jet to advance. By using several cameras placed along the jet trajectory it is possible to photograph a high-pressure impulse jet of any length. Light-up time is synchronized with jet ejection time by a simple time-delay switch fastened to the nozzle. The method is being used by the Hydrodynamics Institute of the Siberian Branch of the Academy of Sciences USSR, which has developed an impulse jet device emitting water jets that attain velocities in excess of 1 km/sec. Orig. art. has: 6 figures. [VM]

ASSOCIATION: none

Card 1/ 2

L 61929-65

ACCESSION NR: AP5018203

SUBMITTED: 16Jan65

ENCL: 00

SUB CODE: ME, ES

NO REF SOV: 002

OTHER: 000

ATD PRESS: 4061

Card

2/2

BORODIN, N. S.

AUTHORS: Levshin, V. L., Borodin, N. S. and Neronova, G. P. 51-3-9/14

TITLE: On Emission of Excited Phosphors ZnS-Mn.
(O Svechenii nakhodyashchikhsya pod vozbuzhdeniyem fosforov ZnS-Mn.)

PERIODICAL: Optika i Spektroskopiya, 1957, Vol.III, Nr.3, pp.258-266.
(USSR)

ABSTRACT: This paper was read at the Fifth All-Union Conference on Luminescence (Tartu, June 26, 1956). The authors studied change of emission intensity of Mn in ZnS-Mn phosphors, (0.001 g/g Mn, prepared at 850°C) at fixed temperatures from 20 to 170°C at various intensities of the exciting light. Emission intensities and spectra were measured also at fixed exciting intensities but at different temperatures. The phosphors were prepared in the laboratory of the Physics Institute of the Academy of Science of USSR. Thin layers of the substances (20 μ) were deposited on plates by evaporating from alcohol. The excitation was provided by a mercury lamp ГРК-2. Measurements were made at various wavelengths of excitation. Curves giving dependence of brightness of Mn emission, J, on the exciting

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On Emission of Excited Phosphors ZnS-Mn.

light intensity, I , are given in Fig.1. On excitation by 312 and 366 $m\mu$ wavelengths the emission intensity is given by Eq.1 $J = aI/(I + b)$, where a and b are constants. Table 1 gives values of these constants a and b for curves of Fig.1 obtained at 150°C. Fig.2 gives temperature dependence of the constant a . In contrast to the curves for 312 and 366 $m\mu$ which show saturation at higher values of the exciting light intensity I , no such saturation was observed for excitation with 405 and 436 $m\mu$ (Fig.3). Fig.4 shows temperature dependence of the emission intensity J on excitation by various wavelengths. The two upper parts of Fig.4, obtained at 312 and 366 $m\mu$ respectively, show a strong maximum at about 80-110°C. The lower two parts of Fig.4 which represent excitation at 405 and 436 $m\mu$ exhibit very weak or practically no maxima. The separate curves shown in each part of Fig.4 represent various exciting light intensities. Table 2 gives the increase of emission on increase of temperature, relative to emission at 20°C for various 366 $m\mu$ exciting light intensities. At weak

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On Emission of Excited Phosphors ZnS-Mn.

excitation temperature quenching causes decrease of emission at higher temperatures. When the exciting light is strong temperature quenching is relatively weaker and emission at higher temperatures is up to three times the emission at 20°C. The curves of Fig.4 show also that excitation intensity determines the temperature of maximum emission. With increase of excitation intensity this maximum occurs at higher temperatures. The authors suggest a mechanism for prolonged emission by ZnS-Mn phosphors which takes into account electron motion in the conduction band and hole motion in the valence band. The various transitions are shown in Fig.5. The authors also studied emission spectra of ZnS-Mn phosphors which contained different amounts of Mn and were prepared at different temperatures (sphalerite modification prepared at 850°C shown in Fig.7 and wurtzite modification prepared at 1200°C shown in Fig.8). Table 3 gives the light sums of Mn and Zn emissions at various temperatures and activator concentrations. It follows from Table 3 that: (1) on increase of temperature from 18-100°C Zn emission disappears but is fully compensated by increase of Mn emission;

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On Emission of Excited Phosphors ZnS-Mn.

(2) treatment of the phosphor at a higher temperature on preparation tends to strengthen Mn emission;
(3) increase of Mn concentration from 0.001 to 0.01 g/g causes a strong increase of Mn emission and total disappearance of Zn emission. Positions of Mn emission maxima in the sphalerite and wurtzite structures are the same: 595 m μ . Zn emission maximum in the sphalerite modification lies at 475 m μ and in the wurtzite modification at 450 m μ . The authors thank E. Ya. Arapova for preparation of phosphor samples. There are 8 figures, 3 tables and 8 references, 5 of which are Slavic.

Card 4/4

ASSOCIATION: Moscow State University imeni M. V. Lomonosov
(Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova.)

SUBMITTED: January 21, 1957.

AVAILABLE: Library of Congress

Borodin, N. S.

48-4-6/48

SUBJECT: USSR/Luminescence

AUTHORS: Levshin V.L., Borodin N.S. and Meronova G.P.

TITLE: On Luminescence of ZnS-Mn-Phosphors Being under Excitation
(O sveschenii nakhodyashchikhsya pod vozbuzhdeniyem ZnS-Mn-fosforov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1957,
Vol 21, #4, pp 499-501 (USSR)

ABSTRACT: Changes in the brightness of the manganese band of ZnS-Mn-phosphors with the rise of excitation intensity were investigated. Experiments were carried out with the following wavelengths of the exciting radiation: 312; 366; 405 and 436 mμ, and under the following temperatures: 20; 50; 110; 130 and 150°C.

Luminescence saturation was detected at excitation by 312 and 360 mμ wavelengths. The course of saturation curves is expressed by the formula:

$$J = \frac{aI}{I+b}$$

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TITLE:

48-4-6/48

On Luminescence of ZnS-Mn-Phosphors Being under Excitation
(O svechenii nakhodyashchikhsya pod возбужdeniyem ZnS-Mn-fosforov)

where J is the brightness of phosphor luminescence, I is the intensity of exciting light, and a and b are constants.

At the excitation by the lines of 405 and 436 mμ the rise of luminescence brightness occurred almost proportionally to excitation intensity and only slight traces of saturation were observed at very high intensities.

The temperature rise increases sharply the luminescence in the manganese band. Beginning from 70°C the temperature quenching is detected.

Emission spectra of the sphalerite and wurtzite modifications of ZnS-Mn-phosphors with various manganese concentrations and at various temperatures were also investigated. It was found out that the wurtzite modification favors development of manganese luminescence. The blue zinc luminescence is observed only at low temperatures. The rise of temperature causes the transfer of zinc luminescence into manganese one.

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TITLE: On Luminescence of ZnS-Mn-Phosphors Being under Excitation^{48-4-6/48}
(O svechenii nakhodyashchikhsya pod возбуждениyem ZnS-Mn-fosforov)

The article is followed by a discussion of some problems touched in the report.

No references are cited.

INSTITUTION: Moskva State University im. Lomonosov

PRESENTED BY:

SUBMITTED: No date indicated.

AVAILABLE: At the Library of Congress.

Card 3/3

BORODIN, NS.

PLEASE I DOOK EXPLOITATION

808/4575

Совещатель по юридическим, 8/б, 1955

Method 17, in *Instrumentation Analysis: Materially some chemical analysis (Methods for fluorescence analysis)*, Materials of the 8th Conference, Miami, 1960, 114-115, 116-117, 118-119, 120-121, 122-123, 124-125, 126-127, 128-129, 130-131, 132-133, 134-135, 136-137, 138-139, 140-141, 142-143, 144-145, 146-147, 148-149, 150-151, 152-153, 154-155, 156-157, 158-159, 160-161, 162-163, 164-165, 166-167, 168-169, 170-171, 172-173, 174-175, 176-177, 178-179, 180-181, 182-183, 184-185, 186-187, 188-189, 190-191, 192-193, 194-195, 196-197, 198-199, 200-201, 202-203, 204-205, 206-207, 208-209, 210-211, 212-213, 214-215, 216-217, 218-219, 220-221, 222-223, 224-225, 226-227, 228-229, 230-231, 232-233, 234-235, 236-237, 238-239, 240-241, 242-243, 244-245, 246-247, 248-249, 250-251, 252-253, 254-255, 256-257, 258-259, 260-261, 262-263, 264-265, 266-267, 268-269, 270-271, 272-273, 274-275, 276-277, 278-279, 280-281, 282-283, 284-285, 286-287, 288-289, 290-291, 292-293, 294-295, 296-297, 298-299, 300-301, 302-303, 304-305, 306-307, 308-309, 310-311, 312-313, 314-315, 316-317, 318-319, 320-321, 322-323, 324-325, 326-327, 328-329, 330-331, 332-333, 334-335, 336-337, 338-339, 340-341, 342-343, 344-345, 346-347, 348-349, 350-351, 352-353, 354-355, 356-357, 358-359, 360-361, 362-363, 364-365, 366-367, 368-369, 370-371, 372-373, 374-375, 376-377, 378-379, 380-381, 382-383, 384-385, 386-387, 388-389, 390-391, 392-393, 394-395, 396-397, 398-399, 400-401, 402-403, 404-405, 406-407, 408-409, 410-411, 412-413, 414-415, 416-417, 418-419, 420-421, 422-423, 424-425, 426-427, 428-429, 430-431, 432-433, 434-435, 436-437, 438-439, 440-441, 442-443, 444-445, 446-447, 448-449, 450-451, 452-453, 454-455, 456-457, 458-459, 460-461, 462-463, 464-465, 466-467, 468-469, 470-471, 472-473, 474-475, 476-477, 478-479, 480-481, 482-483, 484-485, 486-487, 488-489, 490-491, 492-493, 494-495, 496-497, 498-499, 500-501, 502-503, 504-505, 506-507, 508-509, 510-511, 512-513, 514-515, 516-517, 518-519, 520-521, 522-523, 524-525, 526-527, 528-529, 530-531, 532-533, 534-535, 536-537, 538-539, 540-541, 542-543, 544-545, 546-547, 548-549, 550-551, 552-553, 554-555, 556-557, 558-559, 560-561, 562-563, 564-565, 566-567, 568-569, 570-571, 572-573, 574-575, 576-577, 578-579, 580-581, 582-583, 584-585, 586-587, 588-589, 590-591, 592-593, 594-595, 596-597, 598-599, 600-601, 602-603, 604-605, 606-607, 608-609, 610-611, 612-613, 614-615, 616-617, 618-619, 620-621, 622-623, 624-625, 626-627, 628-629, 630-631, 632-633, 634-635, 636-637, 638-639, 640-641, 642-643, 644-645, 646-647, 648-649, 650-651, 652-653, 654-655, 656-657, 658-659, 660-661, 662-663, 664-665, 666-667, 668-669, 670-671, 672-673, 674-675, 676-677, 678-679, 680-681, 682-683, 684-685, 686-687, 688-689, 690-691, 692-693, 694-695, 696-697, 698-699, 700-701, 702-703, 704-705, 706-707, 708-709, 710-711, 712-713, 714-715, 716-717, 718-719, 720-721, 722-723, 724-725, 726-727, 728-729, 730-731, 732-733, 734-735, 736-737, 738-739, 740-741, 742-743, 744-745, 746-747, 748-749, 750-751, 752-753, 754-755, 756-757, 758-759, 760-761, 762-763, 764-765, 766-767, 768-769, 770-771, 772-773, 774-775, 776-777, 778-779, 780-781, 782-783, 784-785, 786-787, 788-789, 790-791, 792-793, 794-795, 796-797, 798-799, 800-801, 802-803, 804-805, 806-807, 808-809, 810-811, 812-813, 814-815, 816-817, 818-819, 820-821, 822-823, 824-825, 826-827, 828-829, 830-831, 832-833, 834-835, 836-837, 838-839, 840-841, 842-843, 844-845, 846-847, 848-849, 850-851, 852-853, 854-855, 856-857, 858-859, 860-861, 862-863, 864-865, 866-867, 868-869, 870-871, 872-873, 874-875, 876-877, 878-879, 880-881, 882-883, 884-885, 886-887, 888-889, 890-891, 892-893, 894-895, 896-897, 898-899, 900-901, 902-903, 904-905, 906-907, 908-909, 910-911, 912-913, 914-915, 916-917, 918-919, 920-921, 922-923, 924-925, 926-927, 928-929, 930-931, 932-933, 934-935, 936-937, 938-939, 940-941, 942-943, 944-945, 946-947, 948-949, 950-951, 952-953, 954-955, 956-957, 958-959, 960-961, 962-963, 964-965, 966-967, 968-969, 970-971, 972-973, 974-975, 976-977, 978-979, 980-981, 982-983, 984-985, 986-987, 988-989, 990-991, 992-993, 994-995, 996-997, 998-999, 1000-1001, 1002-1003, 1004-1005, 1006-1007, 1008-1009, 1010-1011

Sponsoring Agency: Akademiya nauk Belorusskoy SSR. Institut fiziki

General Ed.: N. A. Borisovich; Ed.: I. Timofeyev; Tech. Ed.:
N. Siderko.

PURPOSE: This collection of articles is intended for chemists and physicists interested in molecular luminescence, and for scientific personnel concerned with applications of this and related phenomena in research in the life sciences.

COMMENT: The collection contains 23 papers read at the Eighth Conference on Lactidasease, which took place in St. October, 1959 (place of conference not given). These studies are concerned principally with the development of new lactidasease methods for quantitative and qualitative chemical analysis, and with the applications of such methods in medical and biological research. They discuss lactidasease methods for the determination of urea, creatinine, magnesium, aluminum, boron, and other elements, as well as lactidasease methods for the diagnosis of skin cancer and the detection of glype virus, pathogenic microorganisms, etc. The structural design of new instruments for lactidasease analysis is described. The conference was not concerned with studies on the pharmacokinetics of crystalline lactidasease. There is a discussion on the contributions of Soviet specialists in molecular lactidasease to the course of the conference, and a half proceedings of the conference. The articles of A. M. Mironov and A. D. and V. V. Pecherikov (p. 17) have been omitted because of their brevity. No personalities are mentioned. References accompany most of the articles.

6. *Berberis* 'Nov. 18. A. Twisting the inflorescence to perceive the
flavescens isocymata

Donatukhina, A. A. [All-Union Scientific Research Institute of Chemical Reagents]. Dyes for Fluorescence Microscopy

Metelnyy, V. K. [Institute of Organic Chemistry
at the Institute of Organic Chemistry] Institute of Organic Chemistry

N. D. Zelinskiiy and Associates (see also 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646,

Onsala-5 Institute
The author reports on his synthesis of an organic luminophore

luminescence which exhibits an orange-red luminescence after exposure to ultra-violet light. The new luminescence has

made it possible to use incandescence in cinematography in the electric and electronic vacuum-tube industry for the de-

section of areas in the vicinity of some of the cases, simpler and more sensitive than the standard methods of mass spectrometry.

and V. K. Matveyev [Institute of Organic Chemistry, V. I. and V. K. Matveyev (Institute of Organic Chemistry, Acad. N. D. Zelinsky AG USSR). New Method of

Marking Band With Luminescent and Nonluminescent Substances

that is, a method using sand dyed with a fluorescent substance to study sand drifts during hydroelectric dam construction.

struction work. The authors claim that this method has become into wide use in the USSR and other countries in re-

(cont. page 1.)

N. Y. Komolova (Moscow State University Inst.)

M. V. Lomonosov)]. Diffraction of Ultraviolet Rays in Paper Chromatography

Yermolenko, Ia. B. M. Zvezdovskiy and L. P. Gladchenko

Effect of Adsorbed Water on the Luminescence of Cellulose

Card 6/10

22184

S/048/61/025/004/033/048
B117/B212

24,3500

AUTHORS: Sorkin, F. V., Belyayeva, A. P., and Borodin, N. S.

TITLE: Application of electroluminescence for the development of
sign indicators

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25,
no. 4, 1961, 527-529

TEXT: The present paper was read at the 9th Conference on Luminescence (crystal phosphors). It gives a report on the development of electroluminescence indicators (EL indicators). Green luminous electrolumino-phors ГИПХ (GIPKh) have been used: ZnS - 0.2% Cu, 0.05% Al. An EL sign indicator is a flat luminescent screen (condenser), one of its electrodes is a transparent conducting coating of SnO₂; the other electrode, a metal one, is made of a number of segments. These are produced by thermal vaporization of Al or Ag on a pattern (in a vacuum). If a voltage is applied to the common (transparent) electrode and to the corresponding segment they will start glowing. In order to assure a dependable indicator operation, a new method has been suggested for the production of
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metal electrodes: In a vacuum a copper coating will be applied to the EL coating in form of powder. Then, a 10 to 15 μ thick copper coating is electrodeposited. After this, a pressure method is used. This method makes it possible to provide EL indicators with durable metal electrodes made of a galvanic copper foil. Voltage is applied to them via soldered conductors. The method suggested is also suitable for making grooved and mosaic luminescent screens and other EL equipment. Tests of the service-life of EL elements have shown that the method suggested does not impair the aging characteristics. The principal criterion to distinguish the sign at the EL-sign indicator is the contrast between sign and background. The best results to increase the contrast can be attained by decreasing the coefficient of reflection for the sign board. Calculations show that the contrast will increase strongly at a constant outer illumination if ρ is decreased. EL indicators with a small coefficient of reflection possess a thin (25 ÷ 30 μ) electroluminophor layer (mixed with plastic and nearly disappearing) which has been applied to an absorbing plastic layer colored with nigrosin. The application of sublimate phosphors is very promising. The method suggested has the advantage over light filters that not only the brightness of the background is decreased but also the halation is

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eliminated. Sign indicators of this type can operate at a strong outside illumination (200 ÷ 500 lux). In order to test the service-life of EL indicators electroluminophors have been investigated in a solid dielectric (ЭП-096 (EP-096)). It has been found that moisture will play an important role during aging. A rapid brightness drop can be referred to an electro-chemical change of the luminophor under the influence of an electric field and moisture. Tests have shown that in order to prolong the service-life of EL indicators they have to be sealed. Covering the luminescent side of the EL indicator with epoxyde compound will protect it against moisture. There are 2 figures and 4 references: 1 Soviet-bloc and 3 non-Soviet-bloc. The three references to English language publications read as follows: S. Roberts, J. Appl. Phys., 28, no. 2, 262 (1957); G. Diemer, H. Klasens, P. Zalm, Philips Techn. Rev., 19, no. 1 (1957); P. Zalm, G. Diemer, H. Klasens, Philips. Res. Repts. 2, 81 (1951).

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[Ways of controlling water during shaft sinking in potash and
salt mines] Sposoby bor'by s vodoi na kaliinykh i solianykh rud-
nikakh pri prokhodke stvolov. Moskva, Gos.nauchno-tekhn.izd-vo
lit-ry po gornomu delu, 1961. 319 p. (MIRA 15:1)
(Salt mines and mining) (Mine water)

EXCERPTA MEDICA Sec 8 Vol 12/6 Neurology June 59

2769. CONVULSIVE DISTURBANCES OF CONSCIOUSNESS ASSOCIATED WITH DIABETES INSIPIDUS - Záchvatové poruchy vedomia sprevádzané syndrómom diabetes insipidus - Borodin O. and Janík A. Psychiat. Klin. Léč. Fak. UK, Bratislava - ČAS. LÉK. ČES. 1958, 97/9 (278-281) Tables 4

A 30-year-old male was transferred from an internal medical ward with diagnosis: disturbances of consciousness and diabetes insipidus of psychogenic origin. He was restless and was continually thirsty. By drinking water the psychomotoric state improved; 30 min. later he urinated 2 l. After that he received 15 U. of pituitrin s.c., but the polydipsia and polyuria remained uninfluenced. The 2nd day after admission he was in a catatonic stupor, with mydriasis and a poor reaction of the pupils to light. The patient was sometimes desirous for water, in spite of the fact that he showed no reaction to algetic stimuli. He drank 4 l. of water and urinated the whole quantity in his bed. After drinking, the stupor disappeared, but the consciousness remained narrowed. The patient constantly demanded water; other sugared beverages like tea, coffee or juices were refused. He received 20 U. of pituitrin s.c. without any effect. The 3rd day his behaviour suddenly became normal and he showed no further desire for water. The anamnesis disclosed a commotio cerebri after a skull injury in a mine in 1952. The first attack of a loss of consciousness associated with polydipsia and polyuria was observed in 1956. Later he had experienced similar states, but not in such a high degree and duration; he had never called the doctor. The urine concentration test proved to have a similarity with diabetes insipidus. The fact that after pituitrin no urine is eliminated does not contradict this, because there do exist pituitrin-resistant cases. During the attacks a homonymous left-sided hemianopsia was observed. The left cerebral ventricle was dilated. In the EEG a slight dysrhythmia with signs of hypersynchronization and a frontoparietal right focus was seen. A post-traumatic diencephalic functional lesion is supposed.

Jech - Vienna

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Premorbid stage & its relation to neurotic reactions. Cas. lek. cesk.
97 no.30:924-927 18 July 58.

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(NEUROSIS, REACTIVE, manifest.
premorbid sympt. (Cz))